IN THE CLAIMS

1. (Canceled).

2. (Currently Amended) ~~The method of Claim 1, wherein~~ A method for treating a vascular disease in a mammal, wherein said method comprising the steps of:

infecting a segment of a blood vessel *in vitro* using a gutless adenoviral vector which comprises a polynucleotide encoding a thrombomodulin protein ~~said having thrombomodulin protein has~~ having the amino acid sequence of SEQ ID NO:2 and a regulatory element operably linked to said polynucleotide sequence;

grafting the virus-treated blood vessel in said mammal,

wherein said thrombomodulin protein is expressed in said virus-treated blood vessel in an amount sufficient to reduce re-occlusion or intimal hyperplasia in the grafted blood vessel.

3. (Canceled).

4. (Currently Amended) The method of Claim [[1]] 2, wherein the regulatory element is a constitutive promoter selected from a group consisting of CMV promoter and RSV promoter.

5. (Currently Amended) The method of Claim [[1]] 2, wherein the expression of said polynucleotide encoding a thrombomodulin protein or its variant is under the control of an inducible system.

6. (Currently Amended) The method of Claim [[1]] 2, wherein said gutless adenoviral vector is produced using a shuttle vector comprising a pBR322 replication origin, a selectable marker gene, an adenovirus left inverted terminal repeat, an adenovirus encapsidation signal, an intronic sequence, and an adenovirus right inverted terminal repeat.

7. (Original) The method of Claim 6, wherein said selectable marker gene is Kanamycin resistance gene.

8. (Currently Amended) The method of Claim [[1]] 2, wherein said mammal is human.

9. (Currently Amended) The method of Claim [[1]] 2, wherein said infecting step further comprises:

filling the blood vessel with a complete viral delivery system comprising of 1:1 mixture of Ham's F12 medium and DMEM, an effective amount of the gutless adenovirus vector, and an acellular oxygen carrier; and

incubating the blood vessel with the complete viral delivery system for a desired period of time.

10. (Original) The method of Claim 9, wherein said acellular oxygen carrier is selected from the group consisting of unmodified hemoglobin, chemically modified hemoglobin and perfluorochemical emulsions.

11. (Original) The method of Claim 10, wherein said unmodified hemoglobin or chemically modified hemoglobin is used in the range of 3 g/dl to 10 g/dl.

12. (Original) The method of Claim 9, wherein the complete viral delivery system further comprises at least one of L-glutamine, sodium bicarbonate, or antibiotic-antimycotic.

13. (Original) The method of Claim 9, wherein the desired period of time is between 10 to 45 minutes.

14-29. (Canceled).

30. (Previously Presented) The method of Claim 9, wherein said acellular oxygen carrier is unmodified hemoglobin.

31. (Previously Presented) The method of Claim 30, wherein said unmodified hemoglobin is present in an amount of 3 g/dl to 10 g/dl.

32. (Currently Amended) The method of Claim [[28]] 30, wherein the desired period of time is between 10 to 45 minutes.

33. **(Canceled).**